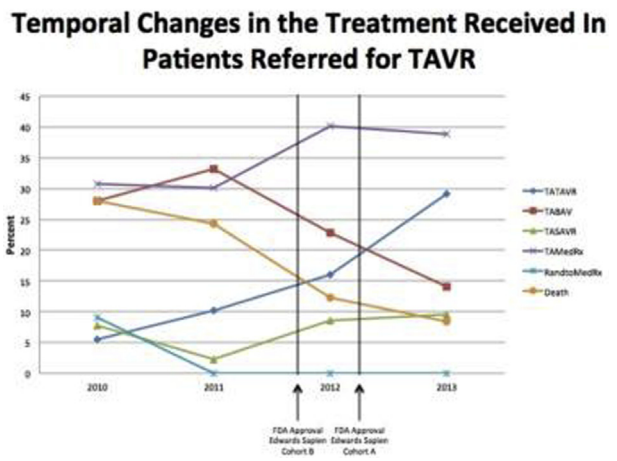

Conclusions: Despite newer TAVR devices and extended labeling, many patients are still excluded from having TAVR. FDA approval of TAVR resulted in overall increase of both TAVR and SAVR, while the number of patients treated with BAV of medical therapy continues to decline.

TCT-729

Four years durability of clinical and hemodynamic outcomes of transcatheter aortic valve implantation with self expanding CoreValve: A single center experience

Simona Gulino[1], Marco Barbanti[1], Wanda Deste[1], Sebastiano Immè[1], Emanuele Benvenuto[1], Letizia Santonoceto[1], Daria Liberto[1], Alessio Di Landro[1], Patrizia Aruta[1], Vera Bottari[1], Rita Sicuso[1], Andrea Sole[1], Claudia Tamburino[1], Denise Todaro[1], Emanuela Di Simone[1], Carmelo Sgroi[1], Corrado Tamburino[1]
[1]Ferrarotto Hospital. University of Catania, Catania, Italy

Background: Although Transcatheter Aortic Valve Implantation (TAVI) has affirmed as a promising technique guaranteeing similar results to surgical aortic valve replacement (SAVR), long-term data on valve function and clinical outcomes are limited. We sought to assess 4-year clinical and echocardiographic outcomes in patients undergoing Transcatheter Aortic Valve Implantation (TAVI) with CoreValve prosthesis.
Methods: Between June 2007 and February 2014, 450 consecutive patients with symptomatic severe aortic stenosis underwent TAVI using both CoreValve, Edwards-SAPIEN, and Lotus valves. For the purposes of this study we included only those patients undergoing successful TAVI with CoreValve prosthesis who had a minimum follow-up of 4 years (n=125). All outcomes were defined according to the Valve Academic Research Consortium (VARC 2).
Results: Survival rates at 1, 2, 3 and 4 years were 83.2, 76.8, 73.6 and 66.3%, respectively. Survival from cardiovascular mortality rates at 1, 2, 3 and 4 years were 88.0, 84.0, 83.2 and 80.8%, respectively. No deaths were directly related to valvular dysfunction. Freedom from reoperation was 98.5%. We reported satisfactory long-term valve performance in terms of mean pressure gradients and aortic valve area (AVA). Echocardiographic follow-up revealed a mean pressure gradients decreasing from 57±17.4 mmHg (pre-TAVI) to 10.4±4.5 mmHg (post-TAVI) (P>0.001) with a small increase at 1 year (12.48±6.8 mmHg), which remained steady at 4 years (11.9±7.1 mmHg). In the majority of cases mild paravalvular regurgitation (PVR) were either unchanged or slightly improved overtime. Progression from mild acute PVR to moderate PVR at 4-year follow-up was reported in three patients. Prosthetic valve failure was reported in 4 patients (3.2%). Valve thrombosis or late valve embolization were not reported.
Conclusions: Our study demonstrated that favorable outcomes after successful TAVI are associated with sustained clinical and functional cardiovascular benefits up to 4-year follow-up. Signs of moderate prosthetic valve failure are present only in a small percentage of patients.

TCT-730

Long-term performance of a transfemorally implantable nonmetallic, retrievable and repositionable aortic valve in patients with severe aortic stenosis- 5 Year Follow-Up of the 22 F-Direct Flow Medical Valve

Klaudija Bijuklic[1], Hendrik Treede[2], Hermann Reichenspurner[3], Eberhard Grube[4], Joachim Schofer[5]
[1]Medical Care Center Prof Mathey Prof Schofer, Hamburg, Germany, [2]Hamburg University, Hamburg, Germany, [3]University Heart Center Hamburg, Ham, Hamburg, [4]University Hospital Bonn, Bonn, Germany, [5]Medical Care Center Prof Mathey, Prof Schofer, Hamburg University Cardiovascular Center, Hamburg, Germany

Background: There is limited information on 5-year outcome of patients undergoing transcatheter aortic valve implantation. In particular, long-term results of a non-metallic inflatable valve design have never been reported. The aim of the present study was to evaluate the 5-year clinical and echocardiographic outcome of the first generation retrievable and repositionable 22F Direct Flow Medical Valve percutaneous aortic valve.
Methods: From 2007 to 2008, 31 symptomatic high-risk for surgery patients (mean age 82±4y) with severe aortic stenosis and a mean logistic EuroSCORE of 29±7% were the enrolled in this study. Clinical, echocardiographic and hemodynamic follow-up were obtained during 5 years.
Results: Survival rates were 81%, 69%, 60%, 54%, and 54% at 1,2,3,4, 5 years, respectively. At 5 years, all surviving patients were NYHA-class I. Echocardiography revealed a significant decrease in the mean gradient from baseline (49.1±13.8 mmHg) to 30 days (19.1±6.8 mmHg) and remained stable over 5 years (15.3±6.0 mmHg) (p = NS). At 5-year follow-up, aortic regurgitation assessed by TTE was either trace or none in all patients.
Conclusions: In this preliminary series of , the first generation of the nonmetallic, repositionable and retrievable 22F Direct Flow Medical valve resulted in the acute hemodyananmic performance was and sustained stable hemodynamic performance over 5 years including with no or trace aortic regurgitation in the majority of all patients.

TCT-731

REASONS FOR HOSPITAL READMISSION WITHIN ONE YEAR AFTER TRANSCATHETER AORTIC VALVE IMPLANTATION

Stefan Stortecky[1], Nicolas Arnold[1], Dik Heg[2], Crochan J. O'Sullivan[1], Thomas Pilgrim[1], Ahmed Khattab[1], Lutz Buellesfeld[1], Peter Wenaweser[1], Stephan Windecker[1]
[1]Bern University Hospital, Bern, Switzerland, [2]Institute of Social and Preventive Medicine, University of Bern, Bern Switzerland, Bern, Switzerland

Background: Elderly patients with severe aortic stenosis and numerous cardiac and non-cardiac comorbidities are currently considered for transcatheter aortic valve implantation (TAVI). TAVI is effective in alleviating valve-related symptoms and restoring quality of life. However, many patients remain frail and in a vulnerable clinical condition after successful TAVI. The aim of this study was to assess rates and reasons for rehospitalization within one year after TAVI.
Methods: Between August 2007 and September 2012, 549 consecutive patients with degenerative aortic stenosis underwent TAVI using different access routes and devices and were included into a prospective registry. Active follow-up was scheduled at 30 days, 6 months and 1 year. All hospital readmissions were ascertained and major adverse events were adjudicated according to the VARC2 standardized endpoint definitions.
Results: Of 549 patients undergoing TAVI, 529(96.4%) were alive at the end of the index hospitalization and discharged. Of these, 138(26.1%) patients were readmitted within 1 year of discharge and included in the present analysis. Patients with at least one readmission had presented with higher logistic EuroScore (25.1±16 vs. 22.1±13mmHg,p=0.01), higher systolic pulmonary artery pressure (55.5±19 vs. 50.2±16mmHg,p=0.02), lower left ventricular ejection fraction (49.0±16 vs. 53.3±14mmHg, p=0.009) and more frequently had previous myocardial infarction (21.7% vs. 13%,p=0.02). Overall, 176 readmissions occurred during the observational period with a cumulative mean hospital duration of 15.6±16 days. Among readmitted patients, 73 patients(41.5%) were re-evaluated for cardiovascular causes (heart failure 17%, peripheral vascular disease 15%, 2% for valvular heart disease), 22 (13%) for gastrointestinal, 12 (7%) for respiratory and 8 patients (5%) for chronic kidney disease. Twenty-two patients (13%) received non-cardiac surgery and 8 patients (5%) were found to have a malignant tumor.
Conclusions: Within the first year after TAVI, one out of four patients is readmitted to the hospital. Cardiac causes and vascular disease are among the most frequent reasons for rehospitalization, while readmission for valve related issues is rare.

TCT-732

Prognostic Value Of Impaired Left Ventricular Function In Patients Undergoing Transapical Versus Transfemoral Transcatheter Aortic Valve Implantation (TAVI)

Vincent J. Nijenhuis[1], Robin Heijmen[2], Martin Swaans[2], Thomas de Kroon[3], Jan Van der Heyden[4], Jurrien M. Ten Berg[5]
[1]St Antonius hospital, Nieuwegein, Netherlands, [2]St Antonius Hospital, Nieuwegein, Netherlands, [3]St. Antonius Hospital, Nieuwegein , Netherlands, [4]N/A, Nieuwegein, Netherlands, [5]St. Antonius Hospital, Nieuwegein, Netherlands

Background: An impaired left ventricular ejection fraction (LVEF) severely affects prognosis and peri-operative risk in patients undergoing surgical aortic valve replacement. Also in patients undergoing TAVI, an impaired LVEF seems to affect prognosis, although contradictory findings exist. We analyzed the effects of an